Hair Transplant Surgery for Hair Disorders

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Diplomate, American Board of Hair Restoration Surgery
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Hair Transplant Surgery
Disease Indications

**YES**
- Male-Pattern
- Female-Pattern
- Dormant LPP
- Secondary Cicatricial
- Traction Alopecia
- Triangular Alopecia

**NO**
- Telogen Effluvium
- Anagen Effluvium
- Alopecia Areata & Variants
- Active Primary Cicatricial
- Folliculitis Decalvans
- Lupus Erythematosus
- ? Any stage FFA ?
- Trichotillomania
Patient Selection
Examination: Young, likely further loss
Excellent

• Reasonable expectations
• Good to Excellent hair quality and donor density
• Low potential for further hair loss
• Good scalp laxity (FUT)
• Motivated to use medical therapy
• Females: specific area of hair loss (vs generalized)
Frontal Fibrosing Alopecia

Free Communications to the topic

16.30-16.40  Hair transplant in frontal fibrosing alopecia: a multicenter review of 51 patients
S. Vañó-Galván, E. Villodres, R. Pigem, R. Navarro,
M. Asín, T. Meyer-González, R. Rodrigues-Barata,
OM Moreno-Arrones, D. Saceda-Corrado,
P. Bouhanna*, A. Camps
Hair Transplant Clinics from Madrid, Barcelona, Alicante and Malaga (Spain) 
and Bouhanna Hair Transplant Clinic* París (France)

16.40-16.50  Eyebrow hair transplantation in frontal fibrosing alopecia: does it work?
F. Jimenez, A. Audickaite
Mediteknia Dermatology and HT Clinic, Las Palmas de Gran Canaria, Spain

16.50-17.00  Transplantation of anagen hair follicles promotes remodelling of stretched scars
M. Plotczyk*, G. Williams**, F. Jiménez***, CA. Higgins*
* Department of Bioengineering, Imperial College London, London SW7 2AZ;
** Farjo Hair Institute, London W11 7LH; *** Mediteknia Dermatology
and Hair Transplant Clinic, Las Palmas de Gran Canaria, Spain
SCARRING ALOPECIA
LPP/FFA Koebner?

BJD

Lichen planopilaris following hair transplantation and face-lift surgery.


Abstract

Lichen planopilaris after hair transplantation: report of 17 cases.

Donovan J.

Abstract

BACKGROUND: Lichen planopilaris (LPP) is a type of primary scarring alopecia. The pathogenesis is...
Hairline Design Trichion
(central & usually lowest point)
Peaks & troughs
Donor Hair Assessment: Objective

• Hair loss progresses throughout one’s life, and

• as such the permanent donor hair has to be assessed in a logical and scientific manner in order to ‘future proof’ the surgery.
Factors to consider when making recipient sites

- Recipient Sites determine the individual placement of the grafts.
- Sites determine the overall aesthetic result of the hair transplant.
  - Direction
  - Angle
  - Depth
  - Orientation
  - Geometry
  - Density
Recipient Site density

- Dense packing - probably 40 grafts/cm² or above
- Studies showing undoubted significant reduced yield beyond 50 grafts
Incision density

4500 GRAFTS – 45 GRAFTS/CM² AVERAGE
2 Methods of Donor Harvesting

• Follicular Unit Extraction (FUE)
  – Manual or Mechanised
  – Automated Robot-Assisted

• Strip Technique (FUT)
Follicular Unit Excision (FUE)

- Method of harvesting the donor
- Use 0.7 – 1.2 mm manual or automated punches to extract individual follicular unit grafts
- Usually requires a full shave of the donor area
- Limited shaving or clipping for smaller numbers
Skill in reducing transection

**Good angle** of penetration of the slicing tool; the bulb is cut out in its entirety.

**Poor angle** of penetration causing a transection of the bulb, which makes it not viable.
Post operatively
Motorised (Non-Robotic) FUE
Motorised (Non-Robotic) FUE
6-8x magnification ideal
The ARTAS® Robotic System

- Robotic Arm
- Monitor Screen
- Cart

Needle Mechanism and Video Camera System
User Interface During Harvesting
Strip FUT Harvesting Method

• Narrow, but long strip or skin graft excised from a dense central area
  – Should be able to completely cover with hair

• Strip is then microscopically dissected into individual grafts

• Usually needs larger set up and skilled technical staff
Typical Megasession Donor Site
Donor Scar with Trichophytic Closure
Available Graft Storage Solutions

IV solutions used for storage
- Normal Saline
- Lactated Ringers
- Plasma-Lyte A (contains acetate and gluconate) ph 7.4

Advanced tissue storage solutions
- Hypothermasol (hypothermic) ph 7.6
- Custodial
- Marshall’s
- 2-8CELLsius

Culture media (not licensed for clinical use)
- DMEM (Dulbecco's Modified Eagle's Medium)
- William’s E media
References

• Philpott MP, Kealey T. Hair Follicles engage in aerobic glycolysis and do not demonstrate the glucose fatty acid cycle. J Invest Dermatol. 1991;96(6):875-9
• Mathew A. A review of cellular biopreservation considerations during hair transplantation. Hair transplant forum int. 2013;23:1
Placing with Implanters
Female Pattern, Surgical Issues: Limitation of donor

Usually 1200 – 2000 grafts per op

- The parietal area is commonly thinning as well
- The scalp is generally tighter than men
- The suitable occipital area is narrow and low
EYEBROW AUGMENTATION in Ulerythema Oopheregenes

Before

After
Temporal Triangular Alopecia
Close up before and after
Traction Alopecia
POST RADIOTHERAPY
Thank you!

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